

SHKUNDIN, B.M.

GRINKEVICH, Petr Stepanovich, dotsent, kand.tekhn.nauk; DOMBROVSKIY, N.G., prof., doktor tekhn.nauk, obshchiy red.; ZNAMENSKIY, I.I., prov., doktor tekhn.nauk, retsenzent; KIRIYSENKO, I.K., retsenzent; SHKUNDIN, B.M., inzh., retsenzent; BELIKOV, M.P., dotsent, kand.tekhn.nauk, nauchnyy red.; KROMOSHCH, I.L., inzh., red. izd-va; EL'KINA, E.M., tekhn.red.; SOLNTSEVA, L.M., tekhn.red.

[Building machinery] Stroitel'nye mashiny. Pod obshchei red. N.G.Dombrovskogo. Moskva, Gos.izd-vo lit-ry po stroit., arkhitekt. i stroit.materialam, 1958. 495 p. (MIRA 13:1)

1. Zamestitel' glavnogo mekhanika Kuybyshevgidrostroya (for Kiriyeenko).

(Building machinery)

SOV/98-59-1-8/14

AUTHOR: Shkundir, B.M., Engineer

TITLE: The Earth Suction Dredges for a Special Purpose
(Zemlesosnyye snaryady spetsial'nogo naznacheniya)

PERIODICAL: Gidrotekhnicheskoye stroitel'stvo, 1959, Nr 1, pp 42-50
(USSR)

ABSTRACT: The author describes new earth-suction-dredges designed for work in specially difficult climatic conditions, and to step up the earth works of the large hydraulic projects. During the construction of the Salekhard and Narykarskiy hydraulic systems on the Ob' river, in the region where the soil is permanently frozen, it was necessary to build the silted-up dams with earth from the bottom of the river, up to 40 m below the water level. The earth suction dredge is erected on a pontoon (figure 3); it consists of two suction devices, one installed below the water level and joined with the second device on the pontoon. The capacity of the dredge is 1,500 cu m an hour, and the total pressure of pumps - 100 m of the water column. Another type of earth suction dredge is used at the digging of the Kama-Vycheгда and Vycheгда-

Card 1/2

22/12-2-65-86/A08

POZINOFF, S.T., Chairman

 $10(4)$

Conference on Scientific Research in the Field of Hydromechanics

SYNOPSIS:

ABSTRACT:

[illegible]

Card 1/6

card 2/6

9/8 paid

SHKUNDIN, B.M., inzh.

Special-purpose dredges. Gidr.stroi. 26 no.1:42-50 Ja '59.
(MIRA 12:2)
(Dredging machinery)

FRIDMAN, Boris Emmanuilovich; SHKUNDIN, B.M., inzh., retsenzent;
VOSKRESENSKIY, N.N., inzh., red.; DANILOV, L.N., red.izd-va;
GORDEYEVA, L.P., tekhn.red.

[Hydraulic elevators] Gidroelevatory. Moskva, Gos.nauchno-tekhn.
izd-vo mashinostroit.lit-ry, 1960. 322 p. (MIRA 13:8)
(Elevators)

SHKUNDIN, B.M., inzh.

Designing lined casings for pump dredges. Mekh. stroi 17
no.7:26-27 JI '60. (MIRA 13:7)
(Dredging machinery--Design)

SHKUNDIN, B.M., inzh.

Apparatus for controlling and measuring woodpulp. Mekh.
stroil. 17 no.8:31-32 Ag '60. (MIRA 13:8)
(Woodpulp--Testing)

SHKUNDIN, Boris Markovich; GUTOVSKIY, V.N., red.; BORUNOV, N.I.,
tekhn.red.

[Suction dredges] Zemlesosy i zemlesosnye snariady. Moskva,
Gos.energ.izd-vo, 1961. 335 p. (MIRA 14:6)
(Dredging machinery)

SHKUNDIN, B.M., inzh.

Design of a new pump dredge of building hydraulic structures.
Gidr. stroi. 31 no.2:8-13 F '61. (MIRA 14:3)
(Dredging machinery)

SHKUNDIN, B.M., inzh.

Let's develop special technology for hydraulic construction. Stroi.
i dor.mash. 6 no.11:12-18 N '61. (MIRA 15:4)
(Hydraulic engineering—Equipment and supplies)

NOVINOV, I.T.; NEPOROCHNIY, P.S.; LAVRENIENKO, K.D.; BONDARENKO, N.M.;
DINGENOV, Ya.I.; PLATONOV, N.A.; SHINCHENOV, I.S.; BELYANOV,
A.P.; SEV ST'YANOV, V.I.; ERISTOV, V.S.; ERISTOV, V.S.
KAZIN, N.V.; MIKTSAKIEV, L.N.; PLATONOV, V.A.; SHKURIN, B.M.
SHKURIN, B.M.; ROZANOV, K.A.; LIVSHITS, A.Ya.; LOPATIN, N.A.;
BESTROV, P.S.

Sergei Borisovich Fogel'son. Gidr. stroi. 31 no. 1:59-60
Ja '61. (LIRA 14:2)

(Fogel'son, Sergei Borisovich, 1911-1960)

SHKUNDIN, B. M., inzh. laureat Stalinskoy premii

Hydromechanical earthwork and mining operations. Sbor. trud.
MISI no. 39:335-340 '61. (MIRA 16:4)

1. Vsesoyuznyy ordena Lenina proyektno-izyskatel'skiy i
nauchno-issledovatel'skiy institut im. Zhuk.

(Hydraulic mining)
(Hydraulic engineering)

SHKUNDIN, B.M.

Hydraulic fill of narrow profile dams and small dikes in
agricultural construction. Mekh. stroi. 20 no.10:28-29 0 '63.
(MIRA 16:10)

1. Nachal'nik otdela novykh stroitel'nykh mashin Vsesoyuznogo
ordena Lenina proyektno-izysatel'skogo i nauchno-issledovatel'-
skogo instituta im. Z.Ya. Zhuk.

ACCESSION NR: AP5110290

UR/0286/64/000/014/0091/0091

AUTHOR: Shkundin, B. M.; Bychkova, Ye. M.; Freydin, V. M.

TITLE: Hydraulic feeding device for supplying powdered materials into the main pipelines of hydraulic transportation installations. Class 81, No. 164232

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 14, 1964, 91

TOPIC TAGS: hydraulic equipment, hydraulic engineering

Translation: 1. A hydraulic feeding device for supplying powdered materials to the main pipelines of hydraulic transportation installations. The device includes a chamber which has devices for sealing it off at the top and bottom, a pipe branch for feeding water into it and a discharge line which feeds the material into the main pipeline. In order to control the rate at which the material is discharged from the chamber, an inclined chute with a vibrator is mounted on elastic supports on the bottom of the chamber. 2. A hydraulic feeding device of this description in which a hydraulic sorter of the countercurrent type is mounted above the upper lock of the chamber in order to concentrate the material according to grain size when the chamber is being loaded.

Card 1/2

ACCESSION NR: AP5010290

ASSOCIATION: Vsesoyuznyy ordena Lenina proyektno-izyskatel'skiy i nauchno-issledovatel'skiy institut "Gidroproyekt" imeni S. Ya. Zhuk (All-Union Order of Lenin Preliminary Study, Design and Scientific Research Institute "Gidroproyekt")

SUBMITTED: 13Aug63

ENCL: 00

SUB CODE: IE

NO REF SOV: 000

OTHER: 000

JPRS

Card 2/2

SHKUNDIN, E.M.

Organization and operation technology. Stroil.truboprov. 9
no.11:24-25 N '64. (MIRA 18:2)

1. Stroitel'no-montazhnoye upravleniye No.37 tresta Tatspetsstroy,
Al'met'yevsk.

SHKUNDIN, I.L.; MAYAFTS, A.I., professor, direktor.

Roller-shaped supports used in renal surgery. Khirurgiia no.3:78 Mr '53.
(MLRA 6:6)

1. Urologicheskaya klinika Instituta tuberkuleza Akademii meditsinskikh
nauk SSSR. (Kidneys--Surgery)

SHKUNDIN, I. I.

Effect of surgical therapy of tuberculosis of sex organs combined
with pulmonary tuberculosis upon the course of the pulmonary process.
Probl.tub. no.4:53-59 J1-Ag '53. (MLRA 6:11)

1. Iz urologicheskoy kliniki (zavednyushchiy - professor A.I.Mayants)
Instituta tuberkuleza Akademii meditsinskikh nauk SSSR (direktor Z.A.
Lebedeva). (Generative organs--Tuberculosis) (Tuberculosis)

SHKUNDIN, I.I.

Successful outcome of surgical intervention in tuberculous meningitis.
Khirurgiia, Moskva no.9:71-72 Sept 1953. (CML 25:5)

1. Of the Urology Clinic of the Institute of Tuberculosis of the
Academy of Medical Sciences USSR.

ZHUKOV, Aleksandr Ivanovich, prof., doktor tekhn. nauk; KARELIN,
Yakov Aleksandrovich, prof.; KOLOBANOV, Sergey
Konstantinovich, dots., kand. tekhn. nauk; YAKOVLEV,
Sergey Vasil'yevich, prof.; LUKINYKH, N.A., kand. tekhn.
nauk, retsenzent; MOKGAYT, I.L., kand. tekhn. nauk,
retsenzent; SHKUNDIN, R.F., inzh., retsenzent; SKVORTSOVA,
I.P., red.

[Sewerage] Kanalizatsiia. Izd.3., ispr. i dop. Moskva,
Stroiizdat, 1964. 641 p. (MIRA 18:2)

SHKUNDIN, R.M., kandidat tekhnicheskikh nauk.

Small scale mechanization of a foundry. Lit.proizv. no.1:31-32
Ja '56. (MLRA 9:5)

(Sverdlovsk--Foundries)

SHKUNDIN, R.M.

Efficient use of the capacity of electric arc furnaces. Lit.
proizv. no.9:26-27 S '56. (MLRA 9:11)
(Sverdlovsk-Electrometallurgy)

SHKUNLIN, R.M., Inzhener.

Modernization of the DSN-0.5 electric steel furnace. Stroi. i dor.
mashinostr. 2 no.5:32 My '57. (MLRA 10:6)
(Electric furnaces)

SHKUNDIN, R.M., inzh.

Small-scale mechanization of heavy material handling and
transportation in foundry shops. Stroil. i dor. mashinostr 3
no.5:31-32 My '58. (MIRA 11:6)
(Loading and unloading) (Foundry machinery and supplies)

SHKUNDIN, R.M.

Mechanized shot charging into shot-blasting equipment. Lit.

proizv. no.9:24 S '58.

(MIRA 11:10)

(Foundry machinery and supplies)

717811, V.

Dynamic engineering

Hydrocarbonization. Nauka i zhizn' 17 no. 9, 1952.

Monthly List of Russian Accessions, Library of Congress, December 1952. UNCLASSIFIED.

ANFIMOV, A.N.; SHKUNDINA, R.M.; FALYEV, G.A., ratsenzent; ASLANOV, V.G.,
ratsenzent; AKIMOVA, L.D., redaktor; GOTLIB, E.M., tekhnicheskii
redaktor

[The slaughter and butchering of cattle] Uboi skota i razdelka tush.
Moskva, Pishchepromizdat, 1956. 119 p. (MLRA 10:2)
(Slaughtering and slaughterhouses)

SHARIF, A. A.; YUL'F, H.S.; OVCHEROVA, T.P.

Study of the effect of some conditions of the cultivation of
Streptococcus lactis on the formation of nisin. Antibiotiki
11 no.9:784-788 S '65. (MIRA 18:9)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut konservnoy i
ovoshcheshakul'noy promyshlennosti, biologo-pochvennyy fakul'tet
Moskovskogo universiteta imeni M.V.Lomonosova.

GUBAR', M.A., podpolkovnik med. sluzhby; SHKUNDOVA, Yu.V.

Ultraviolet disinfection of water under field conditions. Voen. med.
zhur. no.3:83 Mr '58. (MIRA 12:7)
(WATER--PURIFICATION) (ULTRAVIOLET RAYS)

YLGOROV, N.S.; SHKUNDOVA, Yu.V.

Biological method for the determination of nisin concentration.
Antibiotiki 9 no.1:82-92 Ja '64. (MIRA 18:3)

1. Biologo-pochvennyy fakul'tet Moskovskogo universiteta i
Tsentral'nyy nauchno-issledovatel'skiy institut konservatsy i
ovoshchesushil'noy promyshlennosti, Moskva.

SHKUNNIKOV, Yu. (g.Ivanovo, obl.)

An automatic device for switching off a television receiver. Radio
no.1:43 Ja '63. (MIRA 16:1)
(Television--Equipment and supplies)

SHKUNKOVA, Yu. S., Cand of Agric Sci -- (diss) "Study of the Nutritional
Value of Fish Waste Products by Concentrated Acids," Moscow, 1959,
15 pp (All-Union Sci Res Institute of Animal Husbandry) (KL, 5-60, 129)

ACC NR: AP7001337

SOURCE CODE: UR/0386/66/04/011/0441/0445

AUTHOR: Gol'din, Yu. A.; Dmitriyev, V. G.; Tarasov, V. K.; Shkunov, N. V.

ORG: none

TITLE: Observation of generation at the sum frequency in electro-optic nonlinear crystals

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki. Pis'ma v redaktsiyu. Prilozheniye, v. 4, no. 11, 1966, 441-445

TOPIC TAGS: laser r and d, ruby laser, neodymium glass, emission spectrum, electro-optic effect

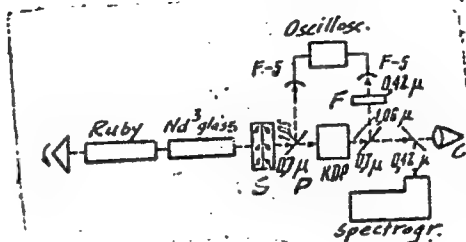
ABSTRACT: The authors present the results of experiments aimed at observing the generation of the sum frequency of two Q-switched lasers, ruby (0.6943μ) and Nd^{3+} glass (1.058μ), which falls in the blue-violet band (0.4192μ). The frequencies were added in a nonlinear electro-optic KDP crystal cut in the synchronism direction. The main difficulty of synchronizing the laser spikes within ~ 5 nsec was circumvented by using a cavity with confocal geometry (Fig. 1). The parameters of the ruby and neodymium-glass lasers and of the output radiation were: laser pump power 800 Joule each, pulse duration 40, 40, and 10 nsec, output energy 0.1, 0.4, and 10^{-3} Joule, power density 2.5, 10, and 0.1 mw/cm^2 . The radiation transformation coefficient at the same frequency was thus $\sim 1\%$. The obtained emission spectrum at the sum frequency is presented and is compared with that of a mercury lamp. The feasibility of real-

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ACC NR: AP7001337

izing a similar experiment with generation at the difference frequency is also discussed briefly. The authors thank R. Kh. Pecherskiy, P. Zudkov, and Ye. I. Sokol for help in the experiment and R. V. Khokhlov for interest in the work. Orig. art. has: 2 figures.

Fig. 1. Block diagram of experimental setup. S - stack of two plane-parallel plates, F - SZS-21 or FS-6 filter, C - calorimeter, P - plane-parallel plate.



SUB CODE: 20/
ATD PRESS: 5108

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ORIG REF: 001/

OTH REF: 017 /

Card 2/2

USSR / Farm Animals. General Problems. Q

Abs Jour : Ref Zhur - Biologiya, No 2, 1959, No. 7275

Author : Shkunova, Yu. S.
Inst : All-Union Scientific Research Institute of
Animal Husbandry

Title : The Feeding Merits of Products Obtained by
Various Technological Procedures from Fish
Wastes

Orig Pub : Byul. nauchno-tokhn. inform. Vses. n.-i.
in-t zhivotnovodstva, 1957, [vyp.] aspir-
antskiy, 29-33

Abstract : In the first experiment nursing piglets were
fed fish waste for 102 days. The animals of
the first group used on the average 851 g of
fish waste daily, of the second group 839 g,
control animals used 230 g of linseed oil ca-

Card 1/2

USSR / Farm Animals. General Problems. Q

Abs Jour : Ref Zhur - Biologiya, No 2, 1959, No, 7275

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549710013-

kes. In the second experiment, the 1st group
received 698 g of fish waste per head daily,
the 2nd received 238 g of fish flour, the 3rd
342.5 g of fish flour, the control 242.5 g
of meat-bone flour. In the first experiment,
additional weight gains amounted to 11.3 kg
for the 1st group, to 5.5 kg for the 2nd
group per head; the expenditures of feed units
per 1 kg of weight gain were smaller by 15
and 9 percent, respectively. In the second
experiment, there were no significant diffe-
rences in weight gains between the groups.
In the first experiment the digestibility of
protein was by 7 percent and of fat by 28-34
percent larger than in the control.

Card 2/2

PER'KOV, N.A.; ANPILOGOV, A.P.; ZUDAKINA, Ye.A.; KORSHIKOV, V.N.; SHKURAL',
R.M.

Testing methods of applied geophysics used in determining reservoir
properties in the Tuymazy oil deposit. Prikl. geofiz. no.28:166-
176 '60. (MIRA 14:3)

(Tuymazy region--Prospecting--Geophysical methods)
(Petroleum)

YENIKEYEVA, O.P.; ZUDAKINA, Ye.A.; KORSHIKOV, V.N.; SHKURAL', R.M. Prini-
mal uchastiye PER'KOV, N.A., kand. geol.-miner. nauk; SHOROKHOVA,
L.I., vedushchiy red.; VORONOVA, V.V., tekhn. red.

[Album of standard geological and geophysical cross sections of
wells of petroleum areas in the Volga-Ural region] Al'bom tipovykh
geologo-geofizicheskikh razrezov skvazhin neftiarykh raionov Volgo-
Ural'skoi provintsii. Pod red. N.A.Per'kova. Moskva, Gos.
nauchno-tekhn. izd-vo neft. i gorno-toplivnoi lit-ry, 1961. 112 p.
(MIRA 14:10)

1. Moscow. Vsesoyuznyy nauchno-issledovatel'skiy institut geofizi-
cheskikh metodov razvedki. 2. Laboratoriya interpretatsii Vsesoyuz-
nogo nauchno-issledovatel'skogo instituta geofizicheskikh metodov
razvedki (for Yenikeyeva, Zudakina, Korshikov, Shkural', Per'kov).
(Volga-Ural region—Oil well logging)

ACC NR: AR7000769

SOURCE CODE: UR/0272/66/000/009/0096/0096

AUTHOR: Shkurchenko, V. L.

TITLE: Measurement of low fluid flow rates by means of flow meters with a proportional measuring slit

SOURCE: Ref. zh. Metrologiya i izmeritel'naya tekhnika, Abs. 9.32.655

REF SOURCE: Kontrol'no-izmerit. tekhnika. Resp. mezhved. nauchno-tekhn. sb., vyp. 1, 1965, 39-42

TOPIC TAGS: flow meter, flow rate, flow ~~rate~~ measurement, *fluid flow, pipe flow*

ABSTRACT: Experimental data are presented on the fluid flow rates of overflow pipes with proportional measuring slits, which can be used in the manufacture of instruments for measuring low flow rates

[from $0.5 \times 10^{-3} \text{m}^3/\text{sec}$ to $(40-50) \times 10^{-3} \text{m}^3/\text{sec}$]. There are four illustrations and a bibliography of 4 titles. P. Agletskiy. [Translation of abstract]

[DW]

SUB CODE: 20/

Card 1/1

UDC: 621.121.873

NESTRUYEVA, R.I., kandidat sel'skokhozyaystvennykh nauk; SHKURAT, D.F.

Lavender is eaten up by deer. Priroda 45 no.9:116-117 S '56.
(MIRA 9:10)

1.Nikirskiy botanicheskiy sad (for Nevstruyeva). 2.Alushtinskiy
efirekombinat (for Shkurat).
(Crimea--Lavender (Plant))

NEVSTRUYEVA, R.I., starshiy nauchnyy sotrudnik; SHKURAT, D.F., agronom

Cultivation of the rockrose in the Crimea. Biul.VNIICHISK
no.2:190-197 '57. (MIRA 15:5)

1. Gosudarstvennyy Nikitskiy botanicheskiy sad, g. Yalta Krymskoy
oblasti.

(Crimea--Rockrose)

COUNTRY : USSR
 C. 100000 : Cultivated Plants, Medicinal, Essential Oil
 Bearing, "Orina".
 GEN. JOURN : Bot Zhur-Biologiya, No.1, 1957, p. 188.
 AUTHOR : Nendrupova, R.D.; Enkutat, D.K.
 TITLE : Essential Oil Bearing Crops in USSR

ABST. ENR : Agrobiologiya, 1957, No.6, 63-75

SUMMARY : History of the development of essential oil
 bearing and cultivation since the pre-revolu-
 tionary period to the present day. At the
 present time essential oil cultures are being
 conducted, aside from at Nikitskiy Botanical
 Garden, by the All-Union Scientific Research
 Institute of Oleiferous and Essential Oil
 Bearing Cultures in Arashodar and six other
 testing stations. As a result of studies of
 essential oil bearing crops and experimental

CARD: 1/3

USSR/Cultivated Plants - Medicinal. Essential Oil-Bearing.
Toxins.

M

Abs Jour : Ref Zhur Biol., No 18, 1958, 82583

Author : ~~Shkurat, D.F.~~

Inst :

Title : Cultivated Cistus on the South Coast of the Crimea.

Orig Pub : Maslob.-zhir. prom-st', 1957, No 12, 29-30

Abstract : Cistus or rock rose is a comparatively new culture in our country. Its resin is utilized as the vegetable fixative in perfumes and cosmetics. The first commercial plantations of Cistus villosus Lem. were laid at the Nat-astashinskiy division of Alushtinskiy Essential Oils Combine in 1950. In 1955 the yield of the green bulk of cistus on different plots was 58, 73 and 60 centners/ha. In 1956, trials of twofold harvest of cistus were carried out which showed that the second crop can comprise 36-48% of the entire yield, that is with normal wintering and

Card 1/2

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SHKURAT, D.F., agronom.

Lavender hybrids as a prospective source of volatile oils. Msal.-
zhir. prom. 24 no. 6:33-34 '58. (MIRA 11:7)

1. Alushtinskiy efirokombinat.
(Lavender)

LESYUS, A.I.; SHKURAT, D.F.

Strengthening weak alcohol by adding salt. Masl.-zhir.prom.
24 no.11:39-40 '58. (MIRA 12:1)

1. Alushtinskiy efirokombinat.
(Alcohol)

KRYS'KOV, Ye.I.; SHKURAT, D.F.

Reaction of mint *Mentha piperita* L. to gibberellin. Bot. zhur. 46
no. 5:707-710 My '61. (MIRA 14:7)

1. Ukrainskaya zonal'naya opytno-selektsionnaya stantsiya
Vsesoyuznogo nauchno-issledovatel'skogo instituta maslichnykh i
efiro-maslichnykh kul'tur, Priluki, Chernigovskoy oblasti.
(Peppermint) (Gibberellin)

SHKURAT, N.I.

Improve business accounting. Put' i put. khoz. 9 no.3:29 '65.
(MIRA 18:6)

1. Starshiy inzh. ot dela puti, stantsiya Korosten', Yugo-
Zapadnoy dorogi.

SHKURAT, N.N.

Anatomical and morphological investigation of some species of
mock orange (*Philadelphus L.*) during their propagation by
cuttings. Nauch.dokl.vys.shkoly; biol.nauk no.2:124-130 '63.
(MIRA 16:4)

1. Rekomendovana kafedroy vysshikh rasteniy Moskovskogo
gosudarstvennogo universiteta im. M.V.Lomonosova.
(MOCK ORANGE) (PLANT CUTTINGS)

SHKURATENKO, S.Ya.

Case of a giant trichobezoar. Vest. rent. 1 rad. 40 no.4:66
Jl-Ag '65. (MIRA 18:9)

1. Krasnodarskiy krayevoy onkologicheskiy dispanser (glavnyy
vrach V.M. Dubrovin).

SHKURATENKO, Z.V.; NAZIMOVA, D.I.

Weeds in fields of the Nekrasov State Farm (Kustanay Province)
and "Severnnyy" State Farm (Aktyubinsk Province). Biol. MOIP. Otd.
biol. 64 no.3:75-87 My-Je '59. (MIRA 13:3)
(Kazakhstan--Weeds)

GORNOSTAY-POL'SKIY, A., kand.tekhn.nauk; SHKURATOV, A.

"Light industry economics in the Ukrainian S.S.R." by L.E.Gorelik. Reviewed by A.Gornostai-Pol'skii, A.Shkuratov. Leg.prom.
18 no.6:49-51 Je '59. (MIRA 12:10)
(Ukraine--Industries)
(Gorelik, L.E.)

SHKURATOV, Aleksandr Ivanovich [Shkuratov, O.I.]; GORELIK, I.Ye. [Horelik, I.E.], doktor ekon.nauk, red.; MERZLIKIN, I.G. [Merzlikin, I.H.], red.

[For full use of production potentials in industry] Za povne
vykorystannia vyrobnychukh potuzhnosti v promyslovosti. Kyiv,
1958. 34 p. (Tovarystvo dlia poshyrennia politychnykh i naukovykh
znan' Ukrain's'koi RSR. Ser.2, no.1) (MIRA 12:2)
(Efficiency, Industrial)

DROGICHINSKIY, Nikolay Yemel'yanovich; SHKURATOV, A.I., otv.red.;
TEPLYAKOVA, A.S., red.

[The Leninist principles of planning] Leninskie printsipy
planirovaniia. Kiev, 1960. 63 p. (Obshchestvo po raspro-
straneniu politicheskikh i nauchnykh znanii Ukrainskoi SSR.
Ser.2, no.6/7). (MIRA 13:9)
(Russia--Economic policy)

SHKURATOV, Aleksandr Ivanovich [Shkuratov, O.I.]; GAK, D.V.[Hak.D.V.],
otv. red.; KAGANOVICH, B.I.[Kahanovych, B.I.], red.;
MATVIICHUK, O.A., tekhn. red.

[Ways to increase labor productivity in U.S.S.R. industry]
Shliakhi pidvyshchennia produktyvnosti pratsi u promyslo-
vosti SRSR. Kyiv, 1961. 46 p. (MIRA 15:2)
(Labor productivity)

SOV/137-58-11-23376

Translation from: Referativnyy zhurnal. Metallurgiya, 1958, Nr 11, p 219 (USSR)

AUTHORS: Binusova, N. A. , Braynin, I. Ye. , Shkuratov, F. I.

TITLE: The Effect of Temperatures of Quenching and Preliminary Stabilization on Tempering Processes in 9KhS Steel (Vliyaniye temperatury zakalki i predvaritel'noy stabilizatsii na protsessy otpuska stali 9KhS)

PERIODICAL: Sb. nauchn. rabot stud. Donetsk. industr. in-t, 1957, Nr 2, pp 93-100

ABSTRACT: Dilatometric methods were employed in investigating the effect of the temperature of quenching and preliminary stabilization (tempering) on the position of temperature lags in transformations occurring during annealing of 9KhS steel. The specimens were quenched in oil from temperatures of 780, 860, and 920°C; tempering operations were performed in conjunction with continuous heating of specimens to 600° as well as in conjunction with preliminary "stabilization" at 150, 260, and 300°. Whereas the temperature corresponding to the termination of the first stage of tempering increases by an insignificant amount, the temperature of the beginning of martensite decomposition increases with increasing quench temperatures. The second transformation point is

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Metallurgical Faculty, Donetsk Industrial Inst im N.S. Kharshchev

SOV/137-58-11-23376

The Effect of Temperatures of Quenching (cont.)

also displaced by tempering. This condition is attributable to an increase in the degree of alloying of martensite and retained austenite (RA). Reheating of quenched specimens which have been tempered for two hours at 150° displaces the temperature of the beginning of decomposition of the RA toward the region of lower temperatures. This may be explained by a reduction of stresses, a decrease in the degree of alloying of martensite, and a reduction of its tetragonal characteristics during the first tempering. A preliminary three-hour tempering at 260-300° is not sufficient to produce complete decomposition of the RA. A second heating, however, brings about the decomposition of the RA at a temperature <300°.

M. Sh.

Card 2/2

SHKURATOV, F. I., CAND TECH SCI, ^{stion of} "VARION ~~IN THE~~ LINEAR
^{as a function of model} DIMENSIONS OF MODELS ~~IN RELATION TO OPERATING CONDITIONS~~
OF HEAT TREATMENT AND ~~THE~~ CHEMICAL COMPOSITION OF INSTRU-
MENTAL ALLOYED STEEL." STALINO, 1958. (MIN OF HIGHER ED
UKSSR, DONETS ORDER OF LABOR RED BANNER INDUSTRIAL INST
IM N. S. KHRUSHCHEV). (KL, 3-61, 222).

s/137/62/000/003/154/191
A052/A101

AUTHOR: Shkumatov, F. I.

TITLE: The effect of individual heat treatment factors on the change in linear dimensions of tool steel samples

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 3, 1962, 98-99, abstract 31638 ("Tr. Donetsk. industr. in-ta", no. 32, 1958, 89-111)

TEXT: The investigation of the effect of hardening temperature on the change of permanent elongation Δl , R_c , H_c and C was carried out on tool steel of 9XFC (9KhGS), X (Kh), 9XCΦ (9KhSF), 9XC (9KhS) and 9XΦ (9KhF) grades. The heating of samples from the initial granular perlite structure to 780 - 900°C was done in a salt bath (45% BaCl₂ and 55% NaCl). The cooling at hardening was done in mineral oil. Afterwards the samples were immersed for 5 - 10 min. into 10% aqueous alkali solution with the temperature of 35 - 40°C to remove oil, salt and protective coatings. After washing in water and drying, the measurement of the above-mentioned characteristics was made. It is established that the maximum elongation is observed with 9KhF with an increase of hardening temperature to 840 - 860°C and the minimum with 9KhGS steel. With the increase of

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The effect of individual heat treatment ...

S/137/62/000/003/154/191
A052/A101

hardening temperature the value of H_c increases almost linear with the change of R_c up to maximum reached at the hardening temperature of $840 - 860^\circ\text{C}$. A further increase of hardening temperature reduces H_c and raises somewhat R_c . The values of H_c of 9KhS and K1 steels with an increase of hardening temperature from 780 to 920°C increase. A month's seasoning of 9KhS steel samples, hardened and tempered at 300°C during an hour, leads to their elongation which is connected with the decomposition of residual austenite. The best medium for hardening 9KhS steel tools is mineral oil with the temperature of 50°C and a subsequent air cooling. Such cooling conditions with the subsequent 2 hours' aging at 150°C and three months' seasoning at indoor temperature secure stabilization of dimensions. The cyclic 3-fold low-temperature tempering of steels of 9KhS and K1 type improves the strength and ductility properties. The initial fine-granular perlite structure contributes to the increased changes of linear dimensions at tempering and to the preservation of a higher hardness. There are 42 references.

A. Babayeva

[Abstracter's note: Complete translation]

Card 2/2

S/123/62/000/016/006/013
A004/A101

AUTHORS: Shkuratov, F. I., El'kina, T. P., Narkinskaya, M. Ye.

TITLE: Investigating the conditions of high-temperature cementation of the 13 XGT (18KhGT) and 20 XH3A (20KhNZA) steel grades in solid carburizing agents

PERIODICAL: Referativnyy zhurnal, Mashinostroyeniye, no. 16, 1962, 23, abstract 16B127 ("Tr. Donetsk. politekhn. in-ta", 1961, v. 56, 105 - 114) ✓

TEXT: The authors report on the results of laboratory tests of the conditions of high-temperature cementation (up to 1,000°C) of the 18KhGT and 20KhNZA steel grades in a solid carburizing agent consisting of charcoal with additions of BaCO_3 , CaCO_3 and NaCO_3 carbonates. The cementation was carried out under the following conditions: 920°C - 12 hours, 960°C - 7 hours and 1,000°C - 4.5 hours, with subsequent cooling of the specimens and witness samples in cases. The tests showed that an increase of the cementation temperature from 920 to 1,000°C somewhat increases the strength and lowers the ductility of cemented 18KhGT and 20KhNZA steel specimens subjected to final heat treatment (hardening at 840 and 810°C respectively)

Card 1/2

Investigating the conditions of...

S/123/62/000/016/006/013
A004/A101

and tempering at 200°C), which can be explained by the higher C-content in the hypereutectoid layer of the 20KhNZA steel specimens and by an increase in the width of the eutectoid and transition layer in the 18KhGT specimens (a consequence of the increased carbon diffusion rates at higher cementation temperatures). The microstructure of the cemented layer and core of the tested steels after final heat treatment was about the same, independent of the cementation temperature up to 1,000°C. The application of high-temperature cementation (1,000°C) permits the reduction of the duration of the cementation process by a factor of 2 - 3, the increase in the efficiency of heat-treatment shops and the cut of the cost price of the manufactured products without deteriorating the steel quality.

D. Litvinenko

[Abstracter's note: Complete translation]

ed 2/2

37834

S/123/62/000/008/006/016

A004/A101

15.11.99

AUTHORS: Braynin, I. Ye., Shkuratov, F. I., Tserikh, Z. V.

TITLE: The effect of the total Ti and Al-content on the mechanical properties of the ЭИ437А (EI437A) alloy

PERIODICAL: Referativnyy zhurnal, Mashinostroyeniye, no. 8, 1962, 21, abstract 8A150 ("Tr. Donetsk. politekhn. in-ta", 1961, v. 56, 147-150)

TEXT: The authors tested the effect of the total Ti and Al-content (2.85 - 3.65%) on the properties (σ_b , δ , ψ , time up to failure at $\sigma = 40 \text{ kg/mm}^2$) of the EI437A alloy. It was found that σ_b and the time up to failure during endurance tests increase if the Ti and Al-content is raised to 3.55%, while a further increase of the Ti and Al-content lowers these characteristics.

[Abstracter's note: Complete translation]

Card 1/1

X

S/123/62/000/014/011/020
AC04/A101

AUTHORS: Shkuratov, F. I., Tikhonova, R. A.

TITLE: Investigating the processes taking place during low-temperature tempering in hardened ШХ15 ГТ (ShKh15SG) grade steel specimens

PERIODICAL: Referativnyy zhurnal, Mashinostroyeniye, no. 14, 1962, 32, abstract 14B184 ("Tr. Donetsk. politekhn. in-ta", 1961, v. 56, 129 - 136)

TEXT: The authors report on the results of investigating the effect of the hardening temperature of the ShKh15SG grade steel on the quantity of residual austenite and the temperature range of its decomposition during low-temperature tempering. The specimens were hardened in oil after heating to 820 - 1,000°C, while tempering took place at 120 - 400°C. It is shown that if the hardening temperature is increased from 820 to 860°C, the hardness of the ShKh15SG increases somewhat owing to the martensite alloying, while a slight reduction in hardness can be observed if hardening is taking place at 920°C. A further reduction in hardness is observed at higher hardening temperatures (1,000°C). If the hardening temperature is increased from 820 to 1,000°C the quantity of residual austenite grows

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S/123/62/000/014/011/020

A004/A101

Investigating the processes...

from 2 to 16%, this growth becoming more pronounced at temperatures over 920°C. Beginning and end of the residual austenite decomposition at low-temperature tempering and the corresponding increase of magnetic saturation are shifting with an increase of the hardening temperature. The reduction of magnetic saturation and a certain increase in hardness during the tempering of the hardened specimens (particularly at elevated hardening temperatures) at 120°C, which was established during the investigations, are conditioned by the great quantity of disperse carbides of the intermediate type precipitated from the martensite, these carbides being coherently bound with the crystalline martensite lattice. Tempering in the temperature range of 180 - 280°C does not cause the hardness to change considerably, since two processes occurring in opposite direction are taking place simultaneously - the decomposition of martensite and of the residual austenite. At higher tempering temperatures (400°C) the austenite decomposes into a ferrite-cementite mixture - troostite, with a corresponding reduction in hardness. ✓

D. Litvinenko

[Abstracter's note: Complete translation]

Card 2/2

CHADNOVA, Ye.; SHKURATOV, I.

On time off for agricultural workers. Sov. profsoiuzy 16 no.4:
55 F '60. (MIRA 13:3)

- 1.Chlen tsekhkoma Suzdal'skoy opytной stantsii (for Chadnova).
- 2.Sekretar' Tsentral'nogo komiteta profsoyuza rabochikh i sluzhashchikh
sel'skogo khozyaystva i zagotovok (for Shkuratov).
(Suzdal'--Hours of labor)

SHKURATOV, I.; ZAKLADNOY, V., starshiy nauchnyy sotrudnik

For the correct organization of wages on state farms. Sots.trud
8 no.3:34-39 Mr '63. (MIRA 16:3)

1. Sekretar' Vsesoyuznogo tsentral'nogo soveta professional'nykh soyuzov
(for Shkuratov). 2. Vsesoyuznyy nauchno-issledovatel'skiy institut
ekonomiki sel'skogo khozyaystva (for Zakladnoy).
(Agricultural wages)

SHKURATOV, I.

There is a lot of work waiting for us in the village. Sov.
profsoinzy 19 no.5:1-3 Mr '63. (MIRA 16:2)

1. Sekretar' Vsesoyuznogo tsentral'nogo soveta professional'nykh
soyuzov, predsedatel' Tsentral'nogo komiteta professional'nogo
soyuza rabochikh i sluzhashchikh sel'skogo khozyaystva i
zagotovok.

(Trade unions—Officers) (Farm management)

SHKURATOV, I.F.; NOVOPASSKIY, V.V., red.; IGNAT'YEV, V.A., tekhn.
red.

[Regular production conferences on state farms] Postoianno
deistvuiushchie proizvodstvennye soveshchaniia v sovkhozakh.
Moskva, Profizdat, 1962. 61 p. (Bibliotekha sel'skogo prof-
soiuznogo aktivista, no.1) (MIRA 15:6)

1. Sekretar' Tsentral'nogo komiteta profsoyuza rabochikh i slu-
zhashchikh sel'skogo khozyaystva i zagotovok (for Shkuratov).
(State farms)

SHKURATOV, I. F.

Tasks of rural trade-union organizations. Okhr. truda i sots.
strakh. no.4:6-7 Ap '63. (MIRA 16:4)

1. Sekretar' Vsesoyuznogo tsentral'nogo soveta professional'-
nykh soyuzov, predsedatel' Byuro Vsesoyuznogo tsentral'nogo
soveta professional'nykh soyuzov po rabote professional'nykh
soyuzov v sel'skom khozyaystve.

(Trade unions)

(Farm mechanization—Hygienic aspects)

VORONIN, M.A.; DMITROVSKIY, A.N.; KLYUSHENKOV, I.S.; KOMOGORTSEV, P.Ya.;
MAYKOV, N.K.; OSIPOV, L.L.; PENKIN, I.S.; SHKURATOV, I.G.;
FEDOROV, V.F.; CHERTKOV, Kh.A., red.; EBERLIN, K.Z., red.izd-va;
BOBROVA, V.A., tekhn.red.

[Handbook on materials and equipment] Spravochnik po materialam i
oborudovaniyu. Moskva, Izd-vo "Rechnoi transport." Vol.2.[Equip-
ment] Oborudovanie. 1959. 607 p. (MIRA 13:3)
(Ships--Equipment and supplies)
(Harbors--Equipment and supplies)

TOLUBINSKIY, V.I. [Tolubins'kiy, V.I.]; SHKURATOV, I.Ya.; GOVOROVA, R.P.
[Hovorova, R.P.]; KLIMENKO, Yu.G. [Klymenko, IU.H.]

Effect of the temperature of the process on the yield and quality
of the products from the pyrolysis of brown coal tar. Zbir.
prats' Inst. tepl. AN URSR no.25:3-8 '62. (MIRA 17:1)

SHKURATOV, I. Ya. and ZOZULI, N. V. (Institute of technical thermal physics of Academy of Sciences of Ukrainian SSR)

"Investigation of influence of screw turbulizators on heat radiation during movement of liquids inside pipes".

Report presented at the Section on Heat Exchange in Single Phase Medium, Scientific Session, Council of Acad. Sci. Ukr SSR on High Temperature Physics, Kiev, 2-4 Apr 1963.

Reported in Teplofizika Vysokikh temperatur, No. 2, Sep-Oct 1963, p. 321, JPRS 24,651. 19 May 1964.

GREBENSHCHIKOV, L.S.; GIKAL, N.K.; SHKURATOV, O.G.

The EPM-50 electric filter for removing dust from mine air. Biul.
tekh.-ekon.inform.Gos.nauch.-issl.inst.nauch.i tekhn.inform. no.12:
5-7 '63. (MIRA 17:3)

GREBENSHCHIKOV, L.S.; SHKURATOV, O.G.; GIKAL, N.K.; SUPRUN, A.P.

The EPM-50 mine electrostatic precipitator. Gor. zhur.
no.5:64-67 My '64. (MIRA 17:6)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut tsvetnoy
metallurgii.

GORBENKO, Yelizaveta Matveyevna [GORBENKO, I.E.M.], kand. ekon. nauk.; SHKURATOV,
O.I., red.; MERZLIKIN, I.G., red.

[Means for increasing labor productivity in Soviet industry]
Rezervy pidvyshchennia produktyvnosti pratsi v promyslovosti
SRSR. Kyiv, 1958. 38 p. (Tovarystvo dlia poshyrennia politychnykh
i naukovykh znan' Ukrain's'koi RSR. Ser. 4, no. 5). (MIRA 11;12)
(Labor productivity)

ALEKSANDROVA, Valentina Petrovna; RYZHKOV, Ivan Ivanovich; SHKURATOV, O.I.,
red.

[Effectiveness of advanced methods of work in Ukrainian industry]
Efektivnist' peredovykh metodiv pratsi v promyslovosti Ukraini'koi
RSR. Kyiv, 1958. 39 p. (Tovarystvo dlia poshyrennia politychnykh
i naukovykh znan' Ukraini'koi RSR. Ser. 4, no.9). (MIRA 12:2)
(Ukraine--Efficiency, Industrial)

SHKURATOV, O.I.

The problem of increasing further the productivity of labor in the
knit goods industry of the Ukrainian S.S.R. Visnyk AN URSR 29 no.2:27-37
F '58. (MIRA 11:4)

(Ukraine--Knit goods industry)

STAROVOYTENKO, Ivan Pavlovich; SHKURATOV, O.I., kand.ekoncn.nauk,
glavnyy rad.

[New construction projects in the industry and transportation
of the Soviet Ukraine] Novobudovy promyslovosti i transportu
Radiats'koi Ukrainy. Kyiv, 1959. 35 p. (Tovarystvo dlia
poshyrennia politychnykh i naukovykh znan' Ukrain'skoi RSR.
Ser.7, no.8) (MIRA 12:12)
(Ukraine--Industries) (Ukraine--Transportation)

BONDAR', Boris Grigor'yevich [Bondar, B.H.]; SHKURATOV, O.I., kand.
ekonom.nauk, glavnyy red.

[Role of the state monopoly of foreign trade in the creation
of the economic and technical foundation of socialism in the
U.S.S.R.] Rol' derzhavnoi monopolii zovnishn'oi torhivli u
stvorenni material'no-vyrobnychoi bazy sotsializmu v SRSR.
Kyiv, 1959. 37 p. (Tovarystvo dlia poshyrennia politychnykh
i naukovykh znan' Ukrain's'koi RSR. Ser.2, no.5) (MIRA 12:9)
(Russia--Commercial policy)

RUDOY, Petr Yevdokimovich [Rudoï, P.IE.], kand.ekonom.nauk; SHKURATOV,
O.I., kand.ekonom.nauk, glavnyy red.

[The Soviet Ukraine is a highly developed industrial state]
Radians'ka Ukraina - vysokorozvynuta industrial'na derzhava.
Kyiv, 1959. 54 p. (Tovarystvo dlia poshyrennia politychnykh
i naukovykh znan' Ukrain's'koi RSR. Ser.2, no.12) (MIRA 12:12)
(Ukraine--Industries)

STAROVOYTENKO, Ivan Pavlovich; SHKURATOV, O.I., otv.red.; LESNAYA,
A.A. [Liesnaia, A.A.], red.

[The seven-year plan leads us toward communism] V kommunizm
khodiat semyrichky. Kyiv, 1960. 38 p. (Tovarystvo dlia
poshyrennia politychnykh i naukovykh znan' Ukrain's'koi RSR.
Ser.9, no.12). (MIRA 14:2)
(Ukraine--Industries)

KUGUKALO, I.A. [Kuhukalo, I.A.], kand. ekon. nauk; KORETSKIY, L.M. [Korets'kyi, L.M.]; LIPSKIY, V.M. [Lips'kyi, V.M.]; KOSTENKO, N.K.; SHKURATOV, O.I.; LINCHEVSKAYA, V.O. [Linchevs'ka, V.O.]; DAVIDENKO, G.P. [Davydenko, G.P.]; VOLOBOY, P.V.; PUCHKO, Yu.S.; KONSEVICH, A.I. [Konsevych, A.I.]; KOPACHINSKAYA, N.I. [Kopachyns'ka, N.I.]; LANDYSH, B.O., red.; DAKHNO, Yu.B., tekhn. red.

[Trends in the specialization and comprehensive development of the Kiev Administrative Economic Region] Napriamy spetsializatsii i kompleksnoho rozvytku Kyivs'koho ekonomichnoho administratyvnoho raionu. Kyiv, Vyd-vo Akad. nauk URSR, 1962. 308 p. (MIRA 16:3)

1. Akademiya nauk URSR, Kiev. Instytut ekonomiky. (Kiev Economic Region—Industries)

I. 37702-66 ENT(d)/ENT(m)/T-2/EMP(f)

ACC NR: AP6017074

(N)

SOURCE CODE: UR/0310/65/000/012/0053/0053

AUTHOR: Shkuratov, V. (Engineer)

ORG: None

TITLE: Reliable system for cooling engines

SOURCE: Rechnoy transport, no. 12, 1965, 53

TOPIC TAGS: internal combustion engine, engine cooling system, marine engineering, marine engine, WATER

ABSTRACT: Referring to the article by Ivanov published in "Rechnoy transport", no. 7, 1965, on the use of outboard water for engine cooling, the author expresses his opinion on some deficiencies of Ivanov's device with respect to its mode of mounting on vessels navigating in shallow water of small rivers and channels. The navigating conditions in Dnepr - Bug canal are described and the obstructions of dead-wood bushings, filters and coolers with dirt and weeds are briefly discussed. The author also describes, with the help of a diagram, a cooling system designed by Anikevich and Polyakov and successfully used on the same Pinsk - Brest shipping line. The water cooling device of this system consists of a special water cylindrical jacket mounted on the dead-wood pipe of motor boat. No pump is needed in this system for intake of outboard water. It is expected that 20 motor boats will soon be equipped with this cooling device. Orig. art. has: one diagram.

SUB CODE: 13, 21/ SUBM DATE: None

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UDC: 629.122.004

L 40918-66 EWT(m)/EWP(t)/ETI IJP(c) JD/JG

ACC NR: AP6020736

SOURCE CODE: UR/0136/66/000/006/0039/0044

AUTHOR: Ful'man, N. I.; Sokratova, L. A.; Shkuratova, L. I.

ORG: none

TITLE: Manufacture of high purity metals by amalgam refining

SOURCE: Tsvetnyye metally, no. 6, 1966, 39-44

TOPIC TAGS: amalgam, metal purification, zinc, indium, lead, cadmium, bismuth

ABSTRACT: The report describes and illustrates an electrolytic bath installation employing the selective solvent capacities of mercury and the selective charge properties of amalgams to derive high purity metals even from solutions containing impurities. The amalgam is produced by using mercury-soluble metal to be refined as the anode and the mercury as the cathode, or by dissolving powder, shavings, or solid metal in Hg while heating. The bath consists of an anode chamber, a cathode chamber and several intermediate compartments, all equipped with mixers and separated by partitions which terminate above the floor at the level of mercury occupying the entire bottom of the bath. The amalgam solution above the mercury can migrate from one chamber to another only through the mercury at the bottom. The process described was used to produce Zn, Zn powder, Pb, Cd, Bi, and In. The com-

Card 1/2

UDC: 669.2/.8:669.791.5

L 40918-66

ACC NR: AP6020736

position of initial electrolytes and optimal parameters of the process are listed. The process has been under development at the VNIITSvetmet for several years. The metals produced by this method are up to world standards. A serious obstacle in the further increase in the purity of metals produced is the low sensitivity of the existing metal analysis methods. The work on producing the zinc was performed by E. I. Urubkova and Ye. S. Penkina, and the work on producing indium by P. P. Tsyb and V. I. Mal'tsev. Orig. art. has: 2 tables and 3 figures.

SUB CODE: 11, 13/ SUBM DATE: 00/ ORIG REF: 009/ OTH REF: 003

Card 2/2 11b

SHKURATOVSKIY, G. D. (Engineer, Tallin), SAPIRO, L. S. (Candidate of Technical Sciences, Donetsk), MAZUS, A. A. (Engineer, Tallin), BERSHTEYN, V. O. (Engineer) and POPLAVKIN, D. L. (Engineer, Riga)

"The production of welding materials from local raw materials, improvement of power sources, and personnel training".

Report presented at the 3rd Baltic Conference on Welding, convened by the Sovnarkhozes of the Lithuanian SSR, Latvian SSR, and Estonian SSR, 8-9 April 1964, Vilnius.

[Avtomaticheskaya SVARKA, No. 7, 1964 p. 95)

SHKURBA, V., nauchnyy sotrudnik

Success awaits the brave. Znan. ta pratsia no.5:11-12 My '63.
(MIRA 16:6)

1. Otdel ekonomicheskoy kibernetiki Instituta kibernetiki
AN UkrSSR.

(Economics, Mathematical)
(Electronic computers)

S/271/63/000/001/028/047
D413/D308

AUTHORS: Shkurba, V.V. and Shor, N.Z.

TITLE: Probabilistic calculation of the mean time for performing arithmetical operations on an electronic digital computer

PERIODICAL: Referativnyy zhurnal, Avtomatika, telemekhanika i vychislitel'naya tekhnika, no. 1, 1963, 5, abstract 1B26 (Tr. VI Vses. soveshchaniya po teorii veroyatnostey i matem. statistike, 1960, Vil'nyus, Gos. izd-vo polit. i nauchn. lit. LitSSR, 1962, 269-274)

TEXT: The authors consider the mean time for addition in accumulating adders with 'cascade' carry-over (adder type I), in accumulating adders with 'transverse' carry-over (adder type II), and in the single-volume pulsed adder (adder type III). They obtain both the mean value and the distribution of the addition time. The time for adding numbers A and B is determined by the time delay on the carry-over pulse (or 'no carry-over' in adder type III) at each

Card 1/3

S/271/63/000/001/028/047
D413/D308

Probabilistic calculation ...

digit, multiplied by the maximum length of spread of the pulse.
This quantity is estimated as follows: for adders of types I or II
it is one more than the length of the greatest series of 1's in C

$$(C = C_n \dots C_i \dots C_1);$$

$$C_i = \begin{cases} 0 & \text{if } a_i = b_i = 0 \\ 0 & \text{if } a_i = b_i = 1 \\ 1 & \text{if } a_i \neq b_i \end{cases},$$

where $A = a_n \dots a_i \dots a_1$, $B = b_n \dots b_i \dots b_1$; for adders of
type III it is one more than the length of the greatest series of
1's in $(n - 1)$ digits of C (leaving out C_1). Taking the hypothesis
that for all digital computers with floating point all the digits
 a_i in numbers $A = a_n a_{n-1} \dots a_1$ reaching the arithmetic unit are
independent and assume the values 0 and 1 with equal probability,
they show that the addition time in adders of types I and II is
proportional to $\log_2 n - 1$, while in adders type III it is propor-
tional to $\log_2(n - 1)$. To determine the mean time for multiplica-
Card 2/3

Probabilistic calculation ...

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D413/D308

tion, the authors find the mathematical expectations of a number of 1's and groups of m 0's for various representations of n-digit binary numbers. This problem is considered in the paper as a part of the general problem of determining the mean duration of multiplication τ as a function of the mean duration τ of addition and the mean duration τ of shift in those instances where accelerated multiplication is achieved by omitting adding actions (if there is a 0 in the current section of the multiplier), superposition of adding actions with shifting, single-action shift for several digits, and conversion of the multiplier code. Expressions are obtained for the analysis of a partially transformed code.

[Abstracter's note: Complete translation]

Card 3/3

16 6700

37904

S/021/62/000/005/006/009
E407/D301

AUTHOR: . Shkurba, V.V.

TITLE: Algorithm for solving a general problem of linear programming

PERIODICAL: Akademiya nauk UkrRSR. Dopovidi, no. 5, 1962, 586-589

TEXT: A simple method is proposed for solving the K-problem. The K-problem is formulated as follows: Let $K = (k_{ij})$ and $D = (d_{ij})$ be matrices of order $m \times n$; it is required to find, among all the matrices $X = (x_{ij})$ which satisfy certain conditions, a matrix X which maximizes the functional

$$L(X) = \sum_{i,j} d_{ij} x_{ij}. \quad (4)$$

Many practical problems are particular cases of the K-problem. Thus, with $k_{ij} = 1$, one obtains the transportation problem. Theorem 1: If the system
Card 1/3

Algorithm for solving a general ...

S/021/62/000/005/006/009

D4G7/D3C1

$$\xi_i \eta_i = k_{ij}, i = 1, 2, \dots, m;$$

$$j = 1, 2, \dots, n$$

is compatible, then the K-problem reduces to the transportation problem. Proceeding from theorem 1, the following simple method is proposed for the solution of the K-problem: One selects ξ_i, η_i , so that $\xi_i \eta_i = k_{ij}$. By virtue of the stability of the solution of linear-programming problems with respect to changes in the coefficients, it is possible to obtain (by solving the transportation problem), an optimal or almost-optimal solution of the K-problem. Further, the "extended K-problem" is defined, as well as "chains" of index-pairs (i_n, j_n) , "cyclic chains", "intersection" of chains, and "connected cycles". Theorem 2: To connected cycles corresponds a linearly dependent sequence of vectors P (related to the conditions of the extended K-problem). Theorem 3 is the reciprocal of theorem 1. Theorem 5: In order that X be an optimal solution of the K-problem, it is necessary and sufficient that potentials U_i and V_j exist which sa-

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Algorithm for solving a general ...

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tisfy certain conditions. The above theorems make it possible to construct the algorithm, which consists of 9 operations: 1) One ascertains whether it is possible to construct the initial allowed solution by the method of the north-west angle (Ref. 1: B.D. Yudin, Ye. G. Gol'shteyn, Zadachi i metody lineynogo programmirovaniya (Problems and Methods of Linear Programming), M., 1961). If this is possible, one proceeds with operation 3, if not, then operation 2: The matrices D and K are extended and one passes to operation 1. Operation 3: The system of potentials U, V is constructed. Finally, operation 9: One prints the solution \bar{X} and all the (i, j) for which $\bar{a}_{ij} = 0$; the solution is analyzed. The convergence of the algorithm is ensured by its equivalence to the simplex-method.

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Card 3/3

L 05232-67 EWT(d)/EWP(1) JT
ACC NR: AR6017091

SOURCE CODE: UR/0372/65/000/012/V040/V040

AUTHOR: Shkurba, V. V.

TITLE: Certain mathematical problems of production planning

SOURCE: Ref. zh. Kibernetika, Abs. 12V263

REF SOURCE: Nauchn. tr. Mosk. inzh. -ekon. in-ta, vyp. 21, 1964, 146-155

TOPIC TAGS: industrial production, linear programming, operations research, mathematic analysis

ABSTRACT: In the first part of the work the author presents a brief survey of possible approaches to the mathematical formulation of scheduling problems: 1) The linear programming model. This model is too distant from reality in its starting premises. 2) The integer linear programming model. Scheduling problems may reduce to such a model but only in the presence of an extremely large number of variables. In this connection, methods for the solution of problems of linear programming in integers still have not been sufficiently elaborated. 3) Certain special techniques which, in particular, employ dynamic programming. These techniques may be used for the solution of certain comparatively simple problems, but

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UDC: 512.25/.26+519.3:330.115

L 54579-65 EWT(d) IJP(c)
 ACCESSION NR: AP5012123 UR/0378/65/000/001/0062/0067
 519:577.1

AUTHOR: Shkurba, V. V.

TITLE: The mathematical processing of a class of biochemical experiments

SOURCE: Kibernetika, no. 1, 1965, 62-67

TOPIC TAGS: biological data processing, matrix rearrangement algorithm, genetic chart, biological matrix, gene mutation, molecular genetics, deoxyribonucleic acid

ABSTRACT: S. M. Gershenzon (Vyzyvaniye letal'nykh mutatsiy s pomoshch'yu DNK u *Drosophila melanogaster*. Materialy nauchnykh seminarov po teoreticheskim i prikladnym voprosam kibernetiki Semina: "Matematicheskiye modeli v biologii i bionike, K., 1963) first advanced the hypothesis that *Drosophila* larvae fed with DNA preparations show mutations affecting entire sections of chromosomes. A series of experiments has been carried out to check this hypothesis and the results of these experiments constitute a certain symmetrical $n \times n$ dimensional matrix (δ_{ij}) with the δ_{ij} 's taking one of the two possible values: either the *Drosophila* lines i and j (n = total number of lines) contain mutations affecting some common chromosome section, and then $\delta_{ij} = 1$, or no such common portion exists and $\delta_{ij} = 0$. If the concepts of modern molecular genetics and the above-mentioned hypothesis are right, then

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ACCESSION NR: AP5012123

by rearranging the rows and columns of the matrix one should be able to bring it into the form

$$(\delta_{ij}) = \begin{pmatrix} \delta_{i_1 i_1} & \delta_{i_1 i_2} & \dots & \delta_{i_1 i_n} \\ \delta_{i_2 i_1} & \delta_{i_2 i_2} & \dots & \delta_{i_2 i_n} \\ \vdots & \vdots & \ddots & \vdots \\ \delta_{i_n i_1} & \delta_{i_n i_2} & \dots & \delta_{i_n i_n} \end{pmatrix} \quad (1)$$

where for an arbitrary i_k and all i 's $\{1: k \leq 1 \leq n\}$ $\delta_{i i_1} \geq \delta_{i k i} + 1$ (the so-called basic property). In general, however, such a rearrangement by inspection is an almost hopeless task. Consequently, the author developed a simple and fully effective algorithm for the conversion of the above mentioned matrices into the form (1). If the hypothesis is right, this method should yield genetic charts which should be much more effective than the crossing-over method. In addition, the author investigates conditions under which analogous patterns (matrices with the basic property) could appear during accidental mutations. "The author thanks L. S. Kozachkov for pointing out the problem, S. M. Gerashenzon for the interest and clarification of the nonformal formulation of the problem, and Yu. O.

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Kogan for his help during the computations and the formulation of the problem. Orig. art.
has: 40 formulas, 1 figure, and 3 tables.

ASSOCIATION: None

SUBMITTED: 12Oct64

ENCL: 00 SUB CODE: DP, LS

NO REF SOV: 001

OTHER: 000

Card 3/3

SHKURBA, V.V., kand. fiz.-mat. nauk; SBYENKO, Yu.I., kand. tekhn. nauk

Solution of the problem of an optimum layout. Vest. mashinost. 45
no.9:47-49 S '65. (MIRA 18:10)

L 86214-66 EUT(R)/T/EMP(L) IJE(c)
ACC NR: AP5019458 (A)

SOURCE CODE: UR/0270/65/000/003/007270075

AUTHOR: Shkurba, V. V.

ORG: none

TITLE: Methods of solving computer problems in scheduling theory [Paper presented at All-Union Conference on Computer Mathematics in Moscow, January 1965]

SOURCE: Kibernetika, no. 3, 1965, 72-76

TOPIC TAGS: scheduling theory, digital computer, dynamic programming, *COMPUTER APPLICATION, PRODUCTION ENGINEERING*

ABSTRACT: Terms in common industrial usage are used to define some basic concepts in scheduling theory. The main problem in scheduling theory is given as that of determining the order of processing of all parts in a given sector which is optimum in some sense. A few simple cases of network planning and dynamic programming are presented. With respect to the problem of general approaches, it is concluded that modeling of a special sort, using preference rules and functions, is required. Best results are obtained from so-called randomized preference functions. The methods proposed differ from RAMPS schemes as described by Lambourn. Orig. art. has: 1 figure, 7 formulas.

SUB CODE: 09,05/ SUBM DATE: 17Mar65/ ORIG REF: 009/ OTH REF: 008

1/1 124-

UDC: 519.8

SHKURBA, V.V.

Solution of a transportation problem with limitations.
Kibernetika no. 4:100-101 J1-Ag '65. (MIRA 18:12)

1. Submitted March 1, 1965.